```python
# -*- coding: utf-8 -*-
"""Copy of Untitled21.ipynb

Automatically generated by Colab.

Original file is located at
    https://colab.research.google.com/drive/1Blfqz1sZx7zIrQZbPGWVksgdByQBF0A6
"""

!pip install gradio pandas

import gradio as gr
import pandas as pd
from collections import Counter

# -----------------------------
# Purchase History Dataset
# -----------------------------
data = pd.DataFrame({
    "customer_id": [1,1,1,2,2,3,3,4,4,5],
    "product": ["Milk","Bread","Cheese","Apple","Banana",
                "Milk","Apple","Banana","Bread","Milk","Cheese"],
    "category": ["Dairy","Bakery","Dairy","Fruits","Fruits",
                 "Dairy","Fruits","Fruits","Bakery","Dairy","Dairy"]
})

# -----------------------------
# AI-Based Recommendation
# -----------------------------
def recommend_products(category):
    filtered = data[data["category"] == category]
    popular = Counter(filtered["product"]).most_common(3)
    if not popular:
        return "No recommendations available"
    return ", ".join([item[0] for item in popular])

# -----------------------------
# Intelligent Shelf Arrangement
# -----------------------------
def shelf_arrangement():
    popularity = Counter(data["product"]).most_common()
    shelves = ["Front Shelf", "Middle Shelf", "Top Shelf"]
    result = ""

    for i, (product, _) in enumerate(popularity):
        shelf = shelves[min(i, len(shelves)-1)]
        result += f"{product} в†' {shelf}\n"

    return result

# -----------------------------
# Inventory Analytics
# -----------------------------
def inventory_analytics():
    return data["category"].value_counts().to_string()

# -----------------------------
# Gradio App UI
# -----------------------------
with gr.Blocks(title="Smart AI-Based Retail Store") as app:
    gr.Markdown("# рџ›' Smart AI-Based Retail Store")
    gr.Markdown("### AI-Based Product Recommendation & Intelligent Shelf Arrangement")

    with gr.Tab("Product Recommendation"):
        category = gr.Dropdown(
            choices=data["category"].unique().tolist(),
            label="Select Product Category"
        )
        rec_out = gr.Textbox(label="Recommended Products")
        gr.Button("Get Recommendation").click(
            recommend_products, category, rec_out
        )

    with gr.Tab("Shelf Arrangement"):
        shelf_out = gr.Textbox(label="Shelf Placement", lines=6)
        gr.Button("Generate Shelf Plan").click(
            shelf_arrangement, None, shelf_out
        )

    with gr.Tab("Inventory Analytics"):
        inv_out = gr.Textbox(label="Category Demand", lines=6)
        gr.Button("View Analytics").click(
            inventory_analytics, None, inv_out
        )

app.launch(share=True)
```